

**Title:** Big Island Axis Deer Project

**Organization:** Big Island Invasive Species Committee

**Award(s):** \$118,306

**Introduction:** [In a brief paragraph, describe your organization, its mission statement, and what your total funding need for FY13 was (\$356,368 ). Please calculate what percent of your total funding needs were supplied with HISC funds (this information is also requested in the data reporting template.)]

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**Achievements in FY13**

**[Deliverable 1]:** Dispatch 100% of the deer confirmed by BIISC staff.

**[MOE]:** Evaluating the number of deer dispatched relative to the number of confirmed deer sightings.

- To date 100% of the deer confirmed by BIISC staff have been dispatched (4).

**[Deliverable 2]:** Continued support from current partners; building new partnerships to increase the capacity of the project; and organizing at least twelve partner operations per year utilizing skilled, appropriate partner staffing.

**[MOE]:** Documented activities with current and new partners.

- BIISC continues to maintain and foster relationships with the Hawaii Department of Land and Natural Resources, Hawaii Department of Agriculture, National Park Service, Three Mountain Alliance, Kohala Watershed Partnership, The Nature Conservancy, Hawaii Cattlemen's Association and numerous private landowners and other local groups.
- BIISC has developed new relationships with numerous entities including equipment use agreements and memorandums of understanding for staff assistance.
- BIISC organized and executed 14 partner operations in the reporting period, which resulted in approx. 1,370 hrs of contributed time by partnered staff.



*Seen in this photo the Axis Deer Team preparing for an early morning FLIR Aerial Survey*

**[Deliverable 3]:** Outreach activities targeted to increase frequency and reliability of axis deer sightings on the Big Island.

**[MOE]:** Outreach materials produced; number of outreach activities; number of people reached; number and reliability of sightings.

- Throughout the reporting period BIISC staff have seen an increase in the reliability of axis deer sightings in conjunction with a decrease in the number of sightings. An ideal result to outreach efforts.
- BIISC staff delivered targeted messages via direct mail, email, posters, and attendance at community events.

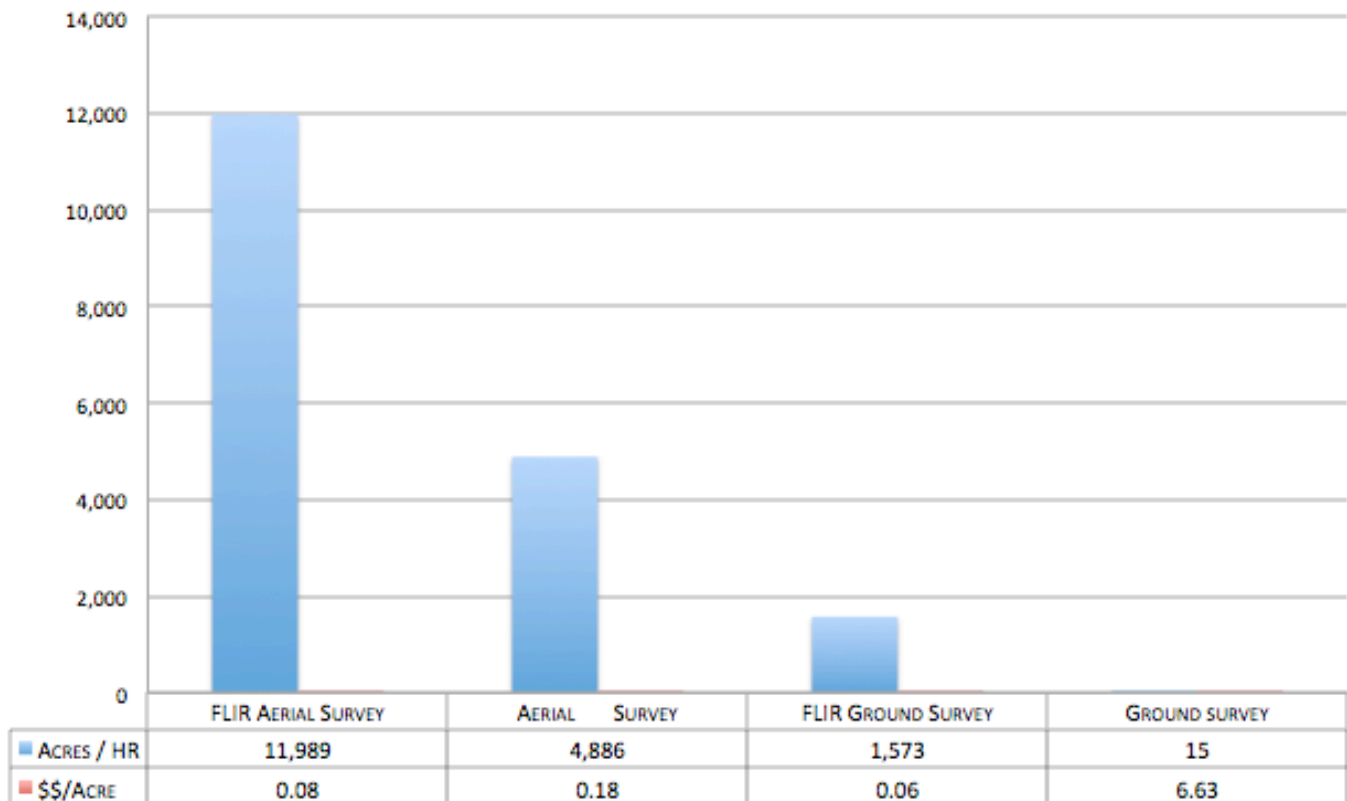
- If you combined information sent by direct mail, email, visibility of posted information and booth visits we could estimate our current audience at 35,000.

**[Deliverable 3]:** Innovate and improve methods for detection and control of feral ungulates.

**[MOE]:** New techniques and technologies used during the reporting period.

- BIISC staff continues to refine and incorporate the use of Forward Looking Infrared into both ground and aerial operations.
- BIISC staff improved aerial FLIR survey techniques, which has resulted in increased detection rates for remnant ungulate populations.
- BIISC staff pioneered the use of Satellite Telemetry video collars to test and measure the effectiveness of axis deer as a Judas Animal.
- BIISC staff conducted the first ever ACETA FLIR assisted aerial shoot, which resulted in a significant increase in dispatch efficiency and effectiveness.
- BIISC staff conducted 124 hrs of nocturnal behavioral study utilizing FLIR technology to investigate axis deer responses to control stimuli.

### Field Methodology Comparison



*A comparative look at the primary field methodologies used by BIISC deer staff. It is evident that the use of FLIR technology significantly increases field and cost effectiveness per acre.*

### ***Other Activities in FY13***

**[Other activity 1]:** BIISC participated in multiple training exercises during the reporting period. The goal of the cooperative training exercises was to introduce partner staff to FLIR technology and its field applications as well as create scenarios to improve skill level for BIISC deer staff.

**[Other activity 2]:** Parties involved in the transport of deer from Maui to the Big Island were prosecuted and charged. As a part of their restitution 500 hours of community service in the form of helicopter time were donated to Invasive Species work across Maui and Hawaii County. The primary purpose of the hours was to survey for established deer populations on the Big Island.

**[Other activity 3]:** Due in part to funds provided by HISC the BIISC deer team was able to hire its third full time employee. The additional staff has significantly increased both field and outreach effectiveness.

**[Other activity 4]:** During the reporting period BIISC staff started collecting data and information from its relevant partners to assist the development of a long term strategic plan for control and monitoring.

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### ***Additional Information***

Axis deer present a huge threat to agriculture, watershed health, and human safety on the Big Island. Current estimates for axis deer are low and decreasing indicating that there is a narrow window of opportunity to prevent the economic and ecological damage already suffered by neighboring islands where deer populations may no longer be eradicated. The goal of this project is to support the estimated seven-year campaign to eradicate axis deer from the island. The proposed approach requires use of trained and certified project and partner staff, strong commitment and support from partner agencies, businesses, local farmers and ranchers, and an effective and comprehensive outreach program. Project activities will focus on continued survey and control operations, partner participation, stakeholder engagement and outreach.

#### **For more information, please contact:**

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*Pictured above is a BIISC staff member with the fourth axis deer removed from the Big Island*